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TRANSDUCTION BETWEEN SINGLE H-PHASE CULTURES IN SALMONELLA. ----

EXPERIMENT USED THE MIXTURE OF THE GAL-LABELED RECIPIENTS.

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In the previous experiments on the effect of the difference of the phase on H-antigen transduction, each recipient culture of different phase was mixed with the lysate separately. This method is not critical enough, because the conditions, in which each single-phase cultures are treated, are not exactly the same and it is possible the different results <sup>has been</sup> ~~were~~ obtained not only by the difference of phase itself but also by the difference of some environmental conditions. In the present experiment, each single phase cultures of the recipient were marked by galactose fermentation character, and they were treated by the lysate as mixed suspensions.

The strains used were Sal. abony SW803 (b:enx Gal<sup>+</sup>), Sal. typhimurium TM2 (i:1,2 Gal<sup>+</sup>), and their galactose non-fermenting (Gal<sup>-</sup>) mutants, which were obtained by ultra-violet <sup>ray</sup> treatment.

The methods of preparation of the lysate and the recipient from these strains were the same as the previous experiment. The other experimental procedures were also the same as the previous, except two single recipient cultures were mixed.

The results obtained are summarized in Table 1. They agree with the previous results which were obtained using each recipient cultures separately.

Table 1.

Transduction between single H-phase in Salmonella, used  
the mixture of the Gal-labeled recipients.

a). TM2 ---x SW803.  
(i:1,2) (b:enx)

Recip Donor	SW803 b Gal <sup>+</sup>	SW803 enx Gal <sup>-</sup>	d <sub>2</sub>
TM2 i Gal <sup>+</sup>	15 / 0	1 / 0	0 / 25
TM2 1,2 Gal <sup>+</sup>	6 / 8	2 / 11	25 / 25
r <sub>1</sub>	95 / 100	8 / 100	

Recip Donor	SW803 b Gal <sup>-</sup>	SW803 enx Gal <sup>+</sup>	d <sub>2</sub>
TM2 i Gal <sup>+</sup>	16 / 0	0 / 0	0 / 25
TM2 1,2 Gal <sup>+</sup>	10 / 7	1 / 8	25 / 25
r <sub>1</sub>	24 / 25	3 / 25	

B). SW803 ---x TM2.

Recip Donor	TM2 i Gal <sup>+</sup>	TM2 1,2 Gal <sup>-</sup>	d <sub>2</sub>
SW803 b Gal <sup>+</sup>	10 / 0	0 / 0	0 / 25
SW803 enx Gal <sup>+</sup>	4 / 16	0 / 34	25 / 25
r <sub>1</sub>	25 / 25	0 / 25	

Recip Donor	TM2 i Gal <sup>-</sup>	TM2 1,2 Gal <sup>+</sup>	d <sub>2</sub>
SW803 b Gal <sup>-</sup>	16 / 1	0 / 0	0 / 25
SW803 enx Gal <sup>+</sup>	6 / 19	0 / 29	25 / 25
r <sub>1</sub>	23 / 25	1 / 25	

\* Fraction indicates: Number of phase-1 transduction / Number of phase-2 transduction.

r<sub>1</sub> : Frequency of phase-1 cells in recipient culture.

d<sub>2</sub> : Frequency of phase-2 cells in donor culture.